



Policy Forum 06-56A: The Illusion of Operational Readiness of National Missile Defense



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Essay by Lt. General Robert Gard & John D. Isaacs

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I. Introduction

Lt. General Robert Gard, Senior Military Fellow at the Center for Arms Control and Non-Proliferation, and John D. Isaacs, Senior Policy Director at the Center for Arms Control and Non-Proliferation, write, "It is irresponsible to squander such large amounts on national missile defense

when there are higher priority defense and domestic programs that remain under-funded... It is far more likely that rogue states or terrorists will obtain a nuclear weapon or nuclear materials and smuggle a nuclear device into the United States than delivering one by an ICBM."

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II. Essay by Lt. General Robert Gard & John D. Isaacs

- The Illusion of Operational Readiness of National Missile Defense
by Lt. General Robert Gard & John D. Isaacs

The Pentagon's ground-based, mid-course missile defense system (GMD), formerly called by the more descriptive name National Missile Defense, is being developed and deployed to intercept one or a very few warheads launched by inter-continental ballistic missiles (ICBM) against the United States. The administration is requesting \$10.4 billion for missile defense, the largest single program in the fiscal year 2007 Pentagon budget. These annual costs could rise to \$19 billion in a few years, according to the Congressional Budget Office. A large proportion of the missile defense budget is allocated to the GMD system.

On 16 December 2002, President Bush directed that the long range interceptors located in Alaska and California should be deployed in an operational status in 2004, although only preliminary developmental tests of some of its components had been conducted. However, due to delays and testing failures, there was no declaration of even "initial" or "limited" defensive operations through May of 2006.

North Korea missile tests

In mid-June 2006, U.S. satellite imagery detected preparations by North Korea to launch a long-range ballistic missile that might be capable of reaching Alaska and portions of the west coast of the United States. In early July, the North Koreans conducted a number of missile tests, although the long-range missile - the Taepodong-2 -- apparently was a nearly total failure.

In response to North Korea's preparations, the Bush administration placed the GMD system - then consisting of nine interceptors in Alaska and two in California -- in an "operational" mode, although official spokespersons declined to comment on its status.

These events represent a symmetrical international Kabuki dance: the North Koreans tested a missile with no idea whether or not it would function as intended, and the United States activated a missile defense system without evidence that it has the capability to intercept the North Korean missile. The action taken by the United States appears to be public relations ploy designed to create the perception that the administration is defending the country against a possible missile attack from North Korea.

Status of National Missile Defense testing

The ground based mid-course (or national missile defense) system has not reached the stage at which operational testing is even possible. The preliminary intercept tests to date have been highly structured and unrealistic. Of the ten intercepts attempted, the five intercepts that have been declared successful have proven that in 50% of the cases, an intercept is possible when operators know in advance:

1. the location, date and time of launch of single target missiles, and their flight trajectories;
2. descriptions of the target re-entry vehicles, which are equipped with global positioning transmitters and/or radar beacons to send their positions to a surrogate ground control radar; and
3. information on decoys designed to provide a different image to tracking and kill vehicle radars from that of the re-entry vehicle.

A surrogate booster flew the target missiles in daylight and good weather at slower than normal speeds and altitudes. There has not been a successful intercept test since October 2002, almost four years ago.

What the experts say

The previous tests, then, while useful as part of a developmental testing program, do little to tell if the system will work when needed in real life situations. The Pentagon's chief weapons tester, acting Director of Operational Test and Evaluation, David Duma, reported early this year that while the system currently being deployed *"may have some inherent defensive capability,"* its battle management system *"has not yet demonstrated engagement control"* and that *"there is insufficient evidence to support a confident assessment of [even] limited defensive operations."* [\[Director Operational Test and Evaluation FY 2005 Report, January 2006\]](#)

Duma declared further in his report that flight tests planned for the future also will *"lack operational realism."* Of the four flight tests programmed for 2006, only the last two will attempt intercepts; the attacking missile will be launched from Kodiak, Alaska, and the interceptor from Vandenberg Air Force Base.

A Congressional Research Service report, published on 18 January 2006, confirms Duma's negative assessment of GMD: The report notes the *"mostly unsuccessful history of the effort,"* and states that there is no *"conclusive evidence of a learning curve, such as increased success over time relative to the tests of the concept 20 years ago."* [\[CRS report, Kinetic Energy Kill for Ballistic Missile Defense: A Status Overview\]](#)

Dr. Philip E. Coyle, a former Department of Defense director of Operational Test and Evaluation (DOTE), agrees with these assessments. He noted in a July 3 Wall Street Journal on-line interview, "the system has no demonstrated capability to defend the U.S. under realistic operational conditions." [\[Wall Street Journal on-line, July 3, 2006\]](#)

In a report released earlier this year, the Government Accountability Office (GAO) noted that auditors from the Missile Defense Agency (MDA), the organization responsible for developing the GMD system, found that *"the interceptor design requirements were unclear and sometimes incomplete, design changes were poorly controlled, and the interceptor's design resulted in uncertain reliability and service life"* and by attempting *"to concurrently mature technology, complete design activities, and field assets before end-to-end testing of the system,"* MDA's program to develop the GMD system has been conducted *"at the expense of cost, quantity, and performance goals."* [\[Missile Defense Agency Fields Initial Capability but Falls Short of Original Goals \(GAO-0-327\), March 15, 2006\]](#)

Premature deployment of such a complex system runs a high risk that critical technologies will not function as intended; at best this results in expensive modifications, or more likely a return to the drawing boards for re-design and a waste of billions of dollars in the case of GMD.

Even the director of the Missile Defense Agency (MDA), Air Force Lt. General Henry A. Oberling, in a moment of candor, gave the system a less-than-flattering description. He stated in June 2005 that GMD has a *"greater than zero chance"* of working. [*"DoD: US Has 'Better Than Zero' Chance At Missile Intercept," Dow Jones News - July 21, 2005 - By Rebecca Christie*]

System far from being ready

All in all, these are hardly assurances from responsible officials and experts that justify continuing to procure up to 40 interceptors planned for Fort Greeley, Alaska, and Vandenberg Air Force Base, California, and 10 additional interceptors for a third site, presumably in Europe. (Poland and the Czech Republic are the leading candidates). Moreover, key elements of the planned system are many years away from deployment. For example:

-The Space Based Infrared Satellite (SBIRS) system, scheduled to replace the limited capability of the aging Defense Support Program satellites in 2010 and provide "a critical increase in our intelligence, surveillance and reconnaissance capabilities," is intended to detect missile launches, among other functions. It has encountered technical challenges, delays and significant cost growth. As a result, the Air Force has been instructed to study alternative systems.

-The Space Tracking and Surveillance System (STSS) has been declared an "essential element" of all but the most rudimentary GMD capability. The concept is a constellation of nine cross-linked, low earth orbit sensor satellites intended to acquire and track enemy missiles; provide increased capability to accomplish the insuperable function of discriminating between warheads and decoys and other countermeasures; and assess the outcome of attempted intercepts. Two "flight demonstration" satellites, left over from a previously canceled project, are scheduled for launch in 2007 to determine over a two year period whether or not it is feasible to track missiles from space. Deployment of any STSS system is obviously well into the indefinite future.

Missile defense system unable to deal with decoys and countermeasures

Even with all the components in place and functioning as intended, however, it is highly doubtful that the ground based mid-course system will be able to consistently and reliably intercept incoming warheads during their mid-course flight in space.

Several authoritative non-governmental organizations and individual experts have concluded that the currently planned national missile defense system will be unable to counter a missile attack that employs even relatively unsophisticated decoys or other countermeasures, which are readily available to any nation capable of developing an inter-continental ballistic missile.

Since prospects for success in discriminating between warheads and countermeasures appear dim, the Missile Defense Agency is in the preliminary stages of attempting to develop a multiple kill vehicle system to replace the single kill vehicle currently deployed on interceptors. The concept is to attack all elements in a target cluster, thereby ensuring destruction of warheads along with any decoys. However, according to Richard Garwin, a highly distinguished defense scientist, even if the multiple kill vehicle system eventually proves feasible, it will not become operational until many years in the future. Likewise, its smaller and less capable individual kill elements are highly unlikely to keep pace with the development of decoys and other countermeasures.

The prospects for destroying ICBMs in their boost or terminal phases are similarly unfavorable. The projects under development for the boost phase, the land- and sea-based kinetic energy interceptors and the airborne laser, have experienced substantial delays and cost increases; even if they prove feasible, their anticipated capabilities will not enable them to counter a threat from Iran. A terminal

phase capability, named the Long Range Atmospheric Defense System, is only in the early conceptual stage.

Missile defense costs

While costs are difficult to pin down, there is general agreement that some \$100 billion has been spent on missile defense since 1983. Congress approved \$8.7 billion of the administration's \$8.8 billion request for missile defense in fiscal year 2006 and the amount in the administration's fiscal '07 budget request is \$10.4 billion, an increase of almost 20%. Since the Space Based Infrared System (SBIRS) is being designed to collect technical intelligence in addition to detecting missile launches, the administration does not include in its missile defense requests the nearly \$700 million for SBIRS in each of the two years. It is difficult to determine exactly how much of the missile defense funding is being spent on the current GMD deployment plan, but it is a substantial proportion of the total. [*\[Analysis of Fiscal Year 2007 budget request, Center for Arms Control and Non-Proliferation, February 2006\]*](#)

In January 2006, the Congressional Budget Office (CBO) issued a report entitled "The Long Term Implications of Current Defense Plans and Alternatives." It projects the budget for missile defense at up to \$19 billion in 2013. The average annual amount for missile defense, according to the study, would be \$13 billion between 2006 and 2024. [*\[Figures 3-30 a & b, "The Long-Term Implications of Current Defense Plans and Alternatives: Detailed Update for Fiscal Year 2006," Congressional Budget Office, January 2006\]*](#) Dr. Coyle estimates that, *"If spending rises as much as estimated by CBO, U.S. taxpayers could spend over a trillion dollars on missile defense in that period."*

It is apparent that astronomical amounts are being spent on national missile defense, a system that has a very low probability of functioning effectively and given the opportunity costs, the system should be accorded low priority, even if the prospects for success were more favorable. The United States' current capability with the Defense Support Program satellites enables us to pinpoint the location of an ICBM launched against the United States. Since there is no credible evidence that the leaders of North Korea and Iran are inclined toward suicide for themselves or their countries, continuation of the strategy of deterrence should be an effective defense against an ICBM attack by these two countries against the United States.

It is irresponsible to squander such large amounts on national missile defense when there are higher priority defense and domestic programs that remain under-funded. At the current rate of expenditures, for example, Russian nuclear weapons and materials will not be secured until 2020 and weapons grade nuclear materials worldwide will not be secured until 2030. It is far more likely that rogue states or terrorists will obtain a nuclear weapon or nuclear materials and smuggle a nuclear device into the United States than delivering one by an ICBM.

The January '06 Congressional Budget Office report cited earlier notes that stopping deployment of missile defense systems and confining efforts solely to research and testing of missile defense concepts during the 2006-2024 period would reduce average annual costs from \$13 billion to \$3 billion. This is the prudent course of action with GMD, and as much of the savings as necessary should be spent on securing nuclear weapons and materials throughout the world to prevent the most serious and more likely nuclear threat to the United States.

III. Nautilus Invites Your Responses

The Northeast Asia Peace and Security Network invites your responses to this essay. Please send responses to: napsnet-reply@nautilus.org . Responses will be considered for redistribution to the network only if they include the author's name, affiliation, and explicit consent.

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